

REMARKS

Claims 1, 4-8, 12, 13, 15, 16, 18, 19 and 21-25 are pending in the Application. Claim 1 is an independent claim and claims 4-8, 12, 13, 15, and 24 depend there from. Claim 16 is an independent claim and claims 18-19, 21-23, and 25 depend there from. Applicant respectfully requests continued examination and reconsideration of the application in light of the following remarks.

Claims 1-2, 5-8, 12-13, 15-19 and 21-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jiang et al. (U.S. Patent No. 6,901,362, hereinafter “Jiang”) in view of Boland (U.S. Patent No. 7,171,357) and further in view of Ubale et al. (U.S. Patent No. 5,778,335, hereinafter “Ubale”).

With regard to an obviousness rejection, MPEP 2142 states that in order for a prima facie case of obviousness to be established, three basic criteria must be met, one of which is that the reference or combination of references must teach or suggest all the claim limitations. Further, MPEP 2143.01 states that “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination”, and that “although a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so’” (citing *In re Mills*, 916 F. 2d 680, 16 USPQ 2d 1430 (Fed Cir. 1990)). Moreover, MPEP 2143.01 also states that the level of ordinary skill in the art cannot be relied upon to provide the suggestion...,” citing *Al-Site Corp. v. VSI Int’l Inc.*, 174 F. 3d 1308, 50 USPQ 2d 1161 (Fed Cir. 1999).

Claim 1 recites “A method for classifying an audio signal, the method comprising:

- receiving an audio signal to be classified;
- dividing the audio signal at least into sub-bands compatible with speech and incompatible with speech;
- calculating a ratio of the sub-bands;

comparing the ratio to a threshold value; and
classifying the audio signal based upon the comparison as either speech or music;
transforming the audio signal into frequency domain;
allocating a number of bits for each of a plurality of frequency components
resulting from transforming the audio signal into the frequency domain based on the
classification of either speech or music;
quantizing each of the frequency component resulting from transforming the
audio signal into the frequency domain with the allocated number of bits based on the
classification of either speech or music.

The office action indicates that neither Jiang, or Boland, teach “allocating a number of bits for a plurality of frequency components resulting from transforming the audio signal into the frequency domain based on the classification of either speech or music” or “quantizing the frequency component resulting from transforming the audio signal into the frequency domain with the allocated number of bits based on the classification of either speech or music”.

The Office Action indicates that Ubale teaches “Ubale et al, teach that the multibank codebook bank 24 parameters are encoded very subframe. The number of bits used to code the se paameters are switched between the two sets, according to the output of the voice/music classifier 14 block. ... Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to use adaptive bit allocation based on speech/classifier as taught by Ubale, et al, in Jiang et al, in view of Boland”.

Assignee respectfully traverse the rejection. Ubale is directed towards “Multiband Code-Excited Linear Prediction”. In Ubale “A 38th order linear prediction (LP) model is the basis for the LPC analyzer 16 with the following transfer function:

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$$A_q(z) = 1 + \sum_{i=1} a_q(i)z^{-i}$$

where $a_q(i)$, $i = 1 \dots 38$ are the quantized linear prediction parameters.” Col. 3, Lines 56-64.

Assignee respectfully submits that the “parameters” references in “The number of bits used to code these parameters are switched between the two sets, according to the output of the voice/music classifier 14 block are not the claimed “frequency components resulting from transforming the audio signal into the frequency domain”. Thus, Ubale also (as well as Boreland and Jiang) does not teach “allocating a number of bits for each of a plurality of frequency components resulting from transforming the audio signal into the frequency domain based on the classification of either speech or music” or “quantizing each of the frequency component resulting from transforming the audio signal into the frequency domain with the allocated number of bits based on the classification of either speech or music.” Accordingly, withdrawal of the rejection to claim 1 is respectfully requested.

Moreover, modification of Ubale so that the “multiband codebook bank 24” allocates a number of bits for each of a plurality of frequency components resulting from transforming the audio signal into the frequency domain based on the classification of either speech or music, instead of the linear prediction parameters would change the principle of operation of Ubale. “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The

court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).” MPEP 2143.01

Regarding claim 16, Applicant respectfully submits that the proposed combination of references fails to teach, suggest, or disclose at least, for example, “a quantizer for allocating a number of bits for each of a plurality of frequency components resulting from transforming the audio signal into the frequency domain *based on the classification of either speech or music* and quantizing each of the frequency components resulting from transforming the audio signal into the frequency domain with the allocated number of bits *based on the classification of either speech or music*” as set forth in Applicant’s independent claim 16.

The Applicant respectfully submits that, based upon the above, the proposed combination of Jiang, Boland and Ubale fails to teach or suggest by themselves or in combination all of the limitations of Applicant’s independent claims 1 and 16, and that the rejections of claim 1 and 16 under 35 U.S.C. §103(a) cannot be maintained. Therefore, Applicant respectfully requests that the rejections of claim 1 and 16 under 35 U.S.C. §103(a), be withdrawn.

Because each of the remaining claims depend, directly or indirectly, from independent claim 1 or 16, and because claims 1 and 16 are allowable over the proposed combination of references, the Applicant asserts that rejections of dependent claims are now moot and these claims are now allowable.

The Office Action makes various statements regarding the claims, 35 U.S.C. § 103(a), the Jiang reference, the Boland reference, the Ubale reference, and other references, one of skill in the art, etc. that are now moot in view of the above

amendments and/or arguments. Thus, the Applicants will not address all of such statements at the present time. However, the Applicants expressly reserve the right to challenge such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a rejection of any current or future claim).

CONCLUSION

Applicant respectfully submits that each of the pending claims are in condition for allowance, and requests that the application be passed to issue. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below. Please charge any required fees not paid herewith or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

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Respectfully submitted,

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